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10/698,903	10/31/2003	Jacob Augustine	200311727-1	3619

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EXAMINER
TORRES, JOSE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 April 2007</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Comments

1.   The Amendment filed on April 2nd, 2007 has been entered and made of record.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-3, 6, 9-11, 14, 21, 22 and 27 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Lee et al. (US 5,748,789) in view of Ratnakar (US 6,928,186).

Lee et al. teaches method/system/computer-readable medium (Col. 54 lines 3-

13) of performing region-of-interest editing of a video stream in the compressed domain

(Col. 1 lines 6-8), said method comprising: a computer system (FIG. 1, "computer

system **20**", Col. 6 lines 12-18) for receiving a video stream frame comprising an

unwanted portion ("background") and a region-of-interest portion ("objects", Col. 7 lines

44-55, Col. 11 lines 26-51 and Col. 42 lines 28-33); a compressor (FIG. 33, "encoding

units **1504-1508**", Col. 42 lines 28-33 and Col. 43 lines 10-15) for compressing said

video stream frame to obtain a compressed video stream frame ("compressed master

object", Col. 11 lines 21-51).

As to claims 1, 14 and 21, Lee et al. does not explicitly disclose a region-of-interest editor for editing said compressed video stream frame to modify said unwanted portion and obtain a compressed video stream frame comprising said region-of-interest portion.

Ratnakar teaches a region-of-interest editor for ("SEDOC", Col. 2 lines 48-56) editing said compressed video stream frame to modify said unwanted portion and obtain a compressed video stream frame comprising said region-of-interest portion (The modifying performed by Ratnakar crops out the macroblocks around the macroblock with the highest score once it is in the compressed domain. Col 4 lines 23-30 and line 56 through Col. 5 line3).

Therefore, in view of Ratnakar, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee et al.'s method by incorporating the compressed-domain processing, as taught by Ratnakar, to edit the compressed video stream frame by cropping out the macroblocks that contain the region-of-interest ("piece with the highest score") at its center in order to provide an efficient and effective algorithm, while retaining the semantically most relevant part of the image (Col. 6 lines 22-39).

As to claims 2 and 22, Lee et al. further disclose said compressed video stream frame conforms to a defined video stream frame compression standard including the MPEG-2 standard (Col. 7 line 66 through Col. 8 line 8).

As to claim 3, Lee et al. does no explicitly disclose said editing said compressed video stream frame is selected from the group consisting of skipping macroblocks and deleting discrete cosine transform coefficients in said unwanted portion.

Ratnakar further teaches said editing said compressed video stream frame is selected from the group consisting of skipping macroblocks and deleting discrete cosine transform coefficients in said unwanted portion (Cropping out the macroblocks which contains the piece wanted at its center, skips the macroblocks outside the unwanted region. Col. 4 line 56 through Col. 5 line 3).

As to claims 6, 9 and 10, Lee et al. further teaches transmitting (Col. 10 line 66 through Col. 11 line 7) said compressed video stream frame from a first location to a second location for decoding/receiving (Col. 11 lines 21-26) and displaying of said edited video stream at said second location (Col. 29 lines 4-12).

As to claims 11 and 27, Lee et al. does not explicitly disclose said modifying of said unwanted portions is performed in a manner that avoids modifying macroblocks proximate to said region-of- interest, thereby establishing a guard ring of pixels around said region-of-interest.

Ratnakar further teaches said modifying of said unwanted portions is performed in a manner that avoids modifying macroblocks proximate to said region-of- interest, thereby establishing a guard ring of pixels around said region-of-interest (The macroblocks cropped out contain the region-of-interest (macroblock with highest score)

at its center. Therefore, these macroblocks are the guard ring. Col. 4 line 56 through

Col. 5 line 3).

4.   Claims 4, 5, 13, 15, 16, 23 and 24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lee et al. modified by Ratnakar as applied to claims 1, 3, 14 and 21

above, and further in view of Hurst, Jr. (US 6,959,045). The teachings of Lee et al.

modified by Ratnakar have been discussed above.

As to claims 4, 5, 15, 16, 23 and 24, Lee et al. modified by Ratnakar fails to teach

skipping macroblocks located above, below and to the right of said region-of-interest

portion for predictive coded frames and bi-directionally predictive-coded frames;

deleting discrete cosine transform coefficients to the left of said region-of-interest

portion for predictive coded frames and bi-directionally predictive-coded frames; and

deleting discrete cosine transform coefficients outside said region-of-interest portion for

intracoded frames.

Hurst, Jr. teaches skipping macroblocks located above, below and to the right of

said region-of-interest portion for predictive coded frames and bi-directionally predictive-

coded frames; deleting discrete cosine transform coefficients to the left of said region-

of-interest portion for predictive coded frames and bi-directionally predictive-coded

frames; and deleting discrete cosine transform coefficients outside said region-of-

interest portion for intracoded frames (It should be noted that the bitstream trimmer

shown in FIG. 1 limits the number of DCT coefficients, therefore discarding the

macroblocks outside the region-of-interest or the "safe-title" are of "safe-action" area.

The macroblocks skipped by the trimmer corresponds to those surrounding the region.

FIG. 1, "bitstream trimmer **110**", Col. 3 lines 1-12, line 53 through Col. 4 line 19, lines

47-60, Col. 5 line 49 through Col. 6 line 14, lines 38-44 and Col. 7 lines 11-18).

Therefore, in view of Hurst, Jr., it would have been obvious to one of ordinary

skill in the art at the time the invention was made to further modify Lee et al. and

Ratnakar by incorporating the skip macroblock process and delete DCT coefficient

process, as taught by Hurst, Jr., for the B, P and I frames located outside the region-of-

interest in order to reduce the cost for a video decoder in a high-definition or standard-

definition television system (Col. 1 lines 5-9).

As to claim 13, Lee et al. modified by Ratnakar fails to teach said video stream

frame is edited in real time.

Hurst, Jr. further teaches said video stream frame is edited in real time (Col. 5

lines 49-60).

5.   Claims 7, 8, 17, 18, 25 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lee et al. in view of Ratnakar as applied to claims 1, 14 and 21

above, and further in view of Maki et al. (US 6,072,903). The teachings of Lee et al.

modified by Ratnakar have been discussed above.

As to claims 7, 8, 17, 18, 25 and 26, Lee et al. modified by Ratnakar fails to teach

said region-of-interest is defined by changing position coordinates in said video stream

using a head-tracking system to locate in real time said changing positional coordinates
of said region-of-interest.

Maki et al. teaches said region-of-interest is defined by changing position
coordinates in said video stream ("modifying a relation", Col. 24 lines 29-39 and lines
52-58) using a head-tracking system to locate in real time said changing positional
coordinates of said region-of-interest ("head-tracking", Col. 23 lines 56-63).

Therefore, in view of Maki et al., it would have been obvious to one of ordinary
skill in the art at the time the invention was made to further modify Lee et al. and
Ratnakar by incorporating the head-tracking mechanism, as taught by Maki et al., to
define a region-of-interest by modifying a relation from the positional coordinates in
order to effect tracking and reduce the amount of information necessary for the
transmission of images by extracting motion vector information (Col. 23 lines 56-63 and
Col. 24 lines 40-46).

6.   Claims 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Lee et al. in view of Ratnakar as applied to claims 1 and 14 above, and further in
view of Wang et al. (US 7,158,861). The teachings of Lee et al. modified by Ratnakar
have been discussed above.

As to claims 12, 19 and 20, Lee et al. modified by Ratnakar fails to disclose said
region-of-interest portion is selected from an image of a user at said first location and an
image of robotic surrogate environment at said second location, said user and said
robotic surrogate in communication with each other via a computer network; a remotely

operable robotic surrogate disposed remotely from and in communication with said user

at said user immersion location, said user capable of remotely operating said robotic

surrogate from said user immersion location to display said video; a computer system

for recording said video stream at said user immersion location and for transmitting said

compressed video stream frame from said user immersion location to said robotic

surrogate; and a computer system for decoding and displaying said compressed video

stream frame on said robotic surrogate; a transmitter for transmitting said compressed

video stream frame from said robotic surrogate to said user immersion location; and a

decoder for decoding and displaying said compressed video stream frame at said user

immersion location.

Wang et al. teaches said region-of-interest portion is selected from an image of a

user at said first location and an image of robotic surrogate environment at said second

location, said user and said robotic surrogate in communication with each other via a

computer network (FIG. 1, Operator and Patient Environment, and network **18**", Col. 2

lines 25-52); a remotely operable robotic surrogate (FIG. 1, "robot **12**") disposed

remotely from and in communication with said user at said user immersion location, said

user capable of remotely operating said robotic surrogate from said user immersion

location to display said video (Col. 2 line 53 through Col. 3 line 2); a computer system

(FIG. 1, "camera **26**") for recording said video stream at said user immersion location

and for transmitting said compressed video stream frame from said user immersion

location to said robotic surrogate (Col. 3 lines 20-25); a computer system for decoding

and displaying said compressed video stream frame on said robotic surrogate (Col. 3

lines 35-50); a transmitter (FIG. 2, "wireless transceiver **74**") for transmitting said

compressed video stream frame from said robotic surrogate to said user immersion

location (Col. 3 lines 35-50); and a decoder for decoding and displaying said

compressed video stream frame at said user immersion location (Col. 3 lines 51-60).

Therefore, in view of Wang et al., it would have been obvious to one of ordinary

skill in the art at the time the invention was made to further modify Lee et al. and

Ratnakar by incorporating the user and remote location environments, as taught by

Wang et al., in which a computer system exists for operating, recording,

compressing/decoding, transmitting, and displaying the images taken at both locations

in order to provide a system where the user, which in this case is a consultant, does not

have to be physically present at the site of the patient (Col. 2 lines 25-41).

Response to Arguments

Objections to the Drawings

7.   Applicant's arguments with respect to the Drawings (Figure 4) have been fully

considered, and are persuasive. Therefore, the objection has been removed.

Objections to the Specification

8.   Applicant has amended Page 14, first paragraph lines 7-8 to recite "region-of-

interest 102" to correct the reference character. Therefore, the objection has been

removed.

Page 17, second paragraph lines 7, 8 and 10 has been amended to recite

"flowchart 500" to correct sentence grammar. Therefore, the objection has been

removed.

Page 19, last paragraph line 2 has been amended to recite "peripheral device

610" to correct the reference character. Therefore, the objection has been removed.

Claim Objections

9.   Applicant's arguments with respect to the objection of claim 12 have been fully

considered, and are persuasive. Therefore, the objection has been removed.

Claim Rejections under 35 U.S.C. §112

10.   With respect to claim 4, Applicant has amended the claim to depend upon claim

3. Therefore, the rejection has been removed.

With respect to claim 5, Applicant has amended the claim to depend upon claim

3. Therefore, the rejection has been removed.

With respect to claim 20, Applicant has amended the claim to depend upon claim

19, and the arguments with respect to the claim limitation "said compressed video

stream frame from said robotic surrogate" have been fully considered, and are

persuasive. Therefore, the rejections have been removed.

Claim Rejections under 35 U.S.C. §102

11.   Applicant's arguments, see pages 9-10 of the Amendment, filed April 2nd, 2007,

with respect to the rejection(s) of claim(s) 1, 2, 6, 9-11, 14, 21, 22 and 27 under 35

U.S.C. §102(b) have been fully considered and are persuasive. Therefore, the rejection

has been withdrawn. However, upon further consideration, a new ground(s) of rejection

is made in view of newly found prior art. See Claim Rejections under 35 U.S.C. §103

Section above.

Conclusion

12.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Atsumi et al. disclose a Method and Apparatus for Compressing

and Decompressing Images, Wee et al. disclose a Method for Downstream Editing of

Compressed Video, and Smith et al. disclose a Teleconferencing Robot with Swiveling

Video Monitor.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jose M. Torres whose telephone number is 571-270-

1356. The examiner can normally be reached on Monday thru Friday: 8:00am -
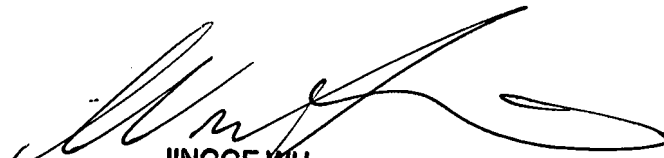
4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

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JMT
06/21/2007

JINGGE WU
SUPERVISORY PATENT EXAMINER